

On November 16, 1904, over twenty-two years from collecting, I began tests of 100 seeds of numbers 1, 2, 3, 5, with the following results:

Of no. 1	-	-	-	-	0	germinated
Of no. 2	-	-	-	-	0	"
Of no. 3	-	-	-	-	5	"
Of no. 5	-	-	-	-	1	" possibly a second one

—W. J. BEAL, *Agricultural College, Michigan.*

SOME MEXICAN SPECIES OF CRACCA, PAROSELA, AND MEIBOMIA.

(WITH PLATE V)

THE genus name *Cracca* of Linnaeus (1753) has of late years been restored in place of the *Tephrosia* of PERSOON (1807), which is clearly a synonym, as has been well pointed out by Mr. E. G. BAKER.¹

Dalea, although first proposed by LINNAEUS in 1737, was reduced by him in 1753 to *Psoralea*. It was not restored until after PATRICK BROWNE in 1756 had published his *Dalea*, and therefore the next available name, *Parosela*, must be used.

The *Meibomia* of ADANSON (1763) has properly been taken up in place of *Desmodium* (DESVAUX, 1813), which must be treated as a synonym, though there is some ground for regarding the two names as representing different genera.

An examination of these three genera by Mr. ROSE in connection with his *Studies of Mexican plants* has shown that they are greatly in need of revision, and considerable work has been done with a view to meeting this want. Mr. PAINTER has a revision of the Mexican and Central American species of *Meibomia* well advanced. It was not the intention to publish any notes on these genera until our revisions were completed; but there has been considerable demand, both from general collectors and from botanists who have been working on Mexican fungi, for correct names for certain species; and we have concluded to publish a few of the new combinations and new species at the present time.

Cracca talpa (S. Wats.) Rose.—*Tephrosia talpa* S. Wats. Proc. Am. Acad. 22:405. 1887.

Cracca macrantha (Rob. & Greenm.) Rose.—*Tephrosia macrantha* Rob. & Greenm. Proc. Am. Acad. 29:383. 1894.

Cracca Pringlei Rose, sp. nov.—Herbaceous perennial much branched at base; branches 10 to 20^{cm} long, appressed-pubescent: leaflets 7 to 10

¹ Jour. Botany, Jan. 1900.

pairs, oblong, 8 to 15^{mm} long, green above and with scattered hairs, densely cinereous beneath, rounded and mucronate at tip: inflorescence short and compact, not much exceeding the leaves: calyx lobes narrow: corolla purplish, the banner 15^{mm} long: ovary very hairy; pods (immature) 4^{cm} long.

Collected by C. G. Pringle on hills of Las Sedas, Oaxaca, July 22, 1897 (no. 6741).

Type in the U. S. National Herbarium.

Parosela mutabilis (Cav.) Rose.—*Psoralea mutabilis* Cav. Ic. 4:65. pl. 394. 1797. *Dalea mutabilis* Willd. Sp. Pl. 3:1339. 1801.

Parosela acutifolia (DC.) Rose.—*Dalea acutifolia* DC. Prod. 2:245. 1825.

Parosela uncifera (Schlecht. & Cham.) Rose.—*Dalea uncifera* Schlecht. & Cham. Linnaea 5:580. 1830.

Parosela triphylla (Pavon) Rose.—*Dalea triphylla* Pavon, Linnaea 12:289. 1838.

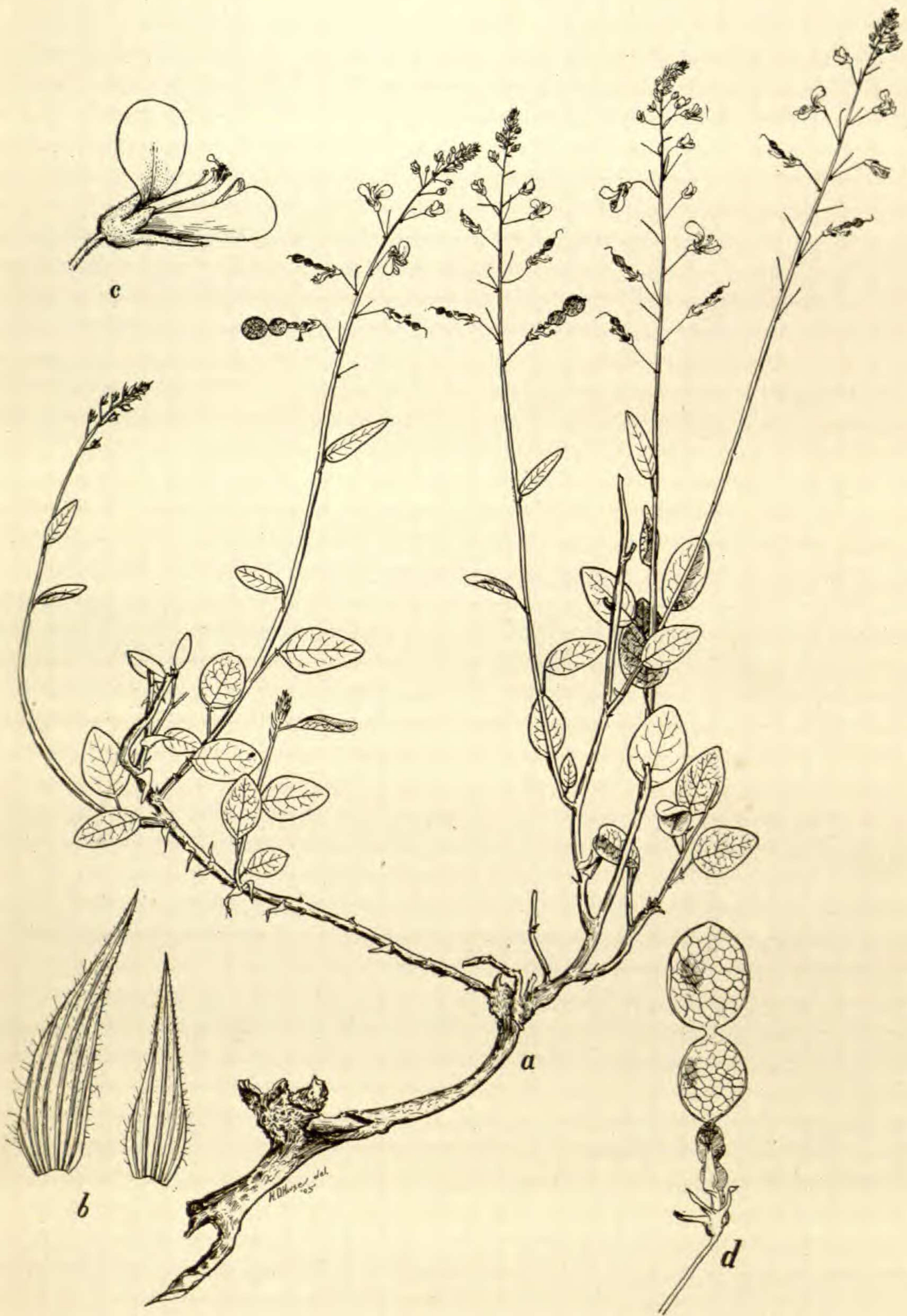
Parosela procumbens (DC.) Rose.—*Dalea procumbens* DC. Prod. 2:246. 1825.

Meibomia (HETEROLOMA) **Metcalfii** Rose & Painter, sp. nov.—Herbaceous, erect with ascending, striate branches: leaves trifoliolate, narrowly ovate-lanceolate, 3 to 5^{cm} long, 0.6 to 1.5^{cm} wide, obtuse at base, acute at apex, margins revolute, upper surface sparsely hirsute with short hairs, dark green, under surface lighter green and glabrous, veins more prominent below than above; petioles angled, of lower leaves 3^{cm} long, of upper leaves nearly wanting; stipules deciduous: inflorescence in open panicles, its racemes terminal and lateral: flowers small, on pubescent pedicels; bracts acuminate, pubescent, early deciduous: calyx purplish, of 5 unequal teeth: corolla small, purplish: ovary pubescent, stipitate; loment decidedly stalked, of 2 to 5 joints, these much longer than broad and covered with uncinata hairs.

Collected by Mr. O. B. Metcalf in the Black Range, Animas Creek, Grant County, New Mexico, on ditch banks, altitude 1,500^m, July 13, 1904 (no. 1137).

A species with the aspect of *M. paniculata* (L.) Kuntze, but more closely related to *M. Lindheimeri* Vail.

Meibomia (HETEROLOMA) **pinetorum** Rose & Painter, sp. nov.—Herbaceous, stem glabrous, trailing, 1 to 2^m long, with ascending branches: leaves trifoliolate; leaflets 1 to 3.5^{cm} long, 1 to 3^{cm} wide, thin, broadly oval, obtuse and mucronate at apex, very sparingly hirsute on the upper surface with scattered appressed hairs, the lower surface lighter green with the primary veins prominent, covered with fewer scattered appressed



MEIBOMIA PALLIDA ROSE and PAINTER

hairs; petioles 1 to 3^{cm} long, glabrous; petiolules of lateral leaflets 1 to 3^{mm} long, of terminal leaflets 8 to 15^{mm} long, pubescent; stipules persistent, small, long-acuminate, glabrous: inflorescence in a simple terminal or lateral axillary raceme; flowers purple, on filiform pedicels; floral bracts deciduous, ovate, acuminate, somewhat puberulent: calyx unequally 5-toothed, pubescent: loment 3 to 4, rarely 5-jointed, almost sessile, the joints covered with uncinata pubescence.

Collected by Mr. C. G. Pringle about Trinidad Iron Works, Hidalgo, México, in pine woods, altitude 1650^m, September 15, 1904 (no. 8890).

Type in U. S. National Herbarium, no. 461381.

This species is nearest *M. orizabana* (Hemsl.) Kuntze, but is easily distinguished from that species by its obtuse, oval leaves, prostrate habit, and loment more deeply constricted above.

Meibomia xylopodia (Greenman) Rose & Painter.—*Desmodium xylopodium* Greenman, Proc. Am. Acad. 39:80. 1903.

Meibomia (CHALARIUM) **pallida** Rose & Painter, sp. nov.—Low, shrubby, 20 to 30^{cm} high: leaves all unifoliolate, the lowest orbicular or broadly oval, obtuse, upper oblong, mucronulate, all pale green, obtuse at base, above covered with short uncinata pubescence, less so and reticulate-veined beneath, midrib prominent, pubescent; petioles pubescent, 2 to 5^{mm} long; stipules deciduous, ovate-acuminate, pubescent and with prominent veins; stipels subulate, pubescent, 1^{mm} or less long: inflorescence in a terminal simple raceme which is densely pubescent; flowers purple; pedicels when fully matured 5 to 6^{mm} long, pubescent; bracts deciduous, lanceolate-ovate, long-acuminate, ribbed: calyx pubescent, the teeth unequal: ovary appearing spirally twisted, pubescent; loment about 5-jointed, the joints inflated, glabrous, reticulate-veined.

Collected by Mr. E. W. Nelson at Huilotepec, Oaxaca, Mexico, altitude 25^m, May 4 to 11, 1895 (no. 2587).

Type in U. S. National Herbarium, no. 40034.

The affinity of this species is with *M. xylopodia* (Greenman) Rose & Painter, but it differs in the glabrous loment and the paler green leaves.

EXPLANATION OF PLATE V: *a*, plant ($\times \frac{2}{3}$); *b*, floral bracts ($\times 7$); *c*, flower ($\times 5$); *d*, fruit ($\times 2\frac{1}{2}$).

Meibomia (CHALARIUM) **rubricaulis** Rose & Painter, sp. nov.—Low shrub, twigs reddish-brown, older ones with striate and whitish bark: leaves small, trifoliolate, petiolate; petioles 5 to 12^{mm} long, covered with short pilose hairs; terminal leaflets obovate, 8 to 12^{mm} long, 6 to 10^{mm} broad, the lateral leaflets mostly oval, at times somewhat obovate, rounded, mucronulate at apex and rounded at base, upper surface minutely